AMENDMENTS TO THE CLAIMS

Please amend claims 19, 21-22, 30, 32-33, and 41-42 as follows:

1-18. (Cancelled)

19. (Currently Amended) A method for recognizing faces of persons, comprising:

training a system to recognize a facial component;

populating a first knowledge base with facial components and, for each facial component,
the facial component's body part classification, wherein the facial components in
the first knowledge base include

a first set of facial components extracted from facial identification training image data of
a face of a first person at a first set of viewpoints;

determining a first set of body part classifications associated with the first set of facial
components; ~~and~~

~~determining, from the first set of body part classifications, a first body part classification
that maximizes a probability that a person class of the facial components in the
first set of facial components that are associated with the first body part
classification is the first person.~~

<u>for each body part classification in the first set of body part classifications:</u>

<u>determining, from the first set of facial components, a subset of facial components
that are associated with the body part classification; and</u>

<u>determining a probability that a person class of the subset of facial components is
the first person; and</u>

<u>determining a first body part classification in the first set of body part classifications that
maximizes the probability.</u>

20. (Previously Presented) The method of claim 41, wherein the first body part classification and the second body part classification are different.

21. (Currently Amended) The method of claim 19, wherein ~~determining the first body part classification comprises determining the first body part classification~~ determining the probability comprises determining the probability using Bayesian estimation.

22. (Currently Amended) The method of claim 19, wherein determining ~~the first body part classification~~ the probability that the person class of the subset of facial components is the first person comprises:

      determining a first conditional probability, that a class is the first person, of ~~the facial components extracted from the facial identification training image data of the face of the first person at a first viewpoint~~ a facial component of the subset of facial components at a first viewpoint;

      determining a first posterior probability, that a class is the first person, by multiplying the conditional probability at the first viewpoint by a prior probability, that a class is the first person;

      determining a second conditional probability, that a class is the first person, of ~~facial components extracted from facial identification training image data of the face of the first person at an additional viewpoint~~ a facial component of the subset of facial components at an additional viewpoint; and

determining a second posterior probability, that a class is the first person, by multiplying the second conditional probability by the first posterior probability.

23. (Previously Presented) The method of claim 22, wherein the prior probability, that the class is the first person, comprises one Nth where N is a number of person classes.

24. (Previously Presented) The method of claim 19, further comprising storing, in a second knowledge base, the facial components in the first set of facial components that are associated with the first body part classification.

25. (Previously Presented) The method of claim 24, further comprising:

receiving facial components at various viewpoints of a person to be identified; and

identifying the person using a facial component stored in the second knowledge base.

26. (Previously Presented) The method of claim 41, wherein the first set of viewpoints and the second set of viewpoints are different.

27. (Previously Presented) The method of claim 19, wherein training the system to recognize the facial component comprises:

receiving facial component training image data of faces of persons at various viewpoints;

extracting facial components at various viewpoints from the facial component training

image data of faces of persons at various viewpoints; and

training a body part classifier module using the extracted facial components.

28. (Previously Presented) The method of claim 27, wherein the body part classifier module performs one-versus-all classification.


29. (Cancelled)


30. (Currently Amended) A system for recognizing faces of persons, comprising:

    a training module configured to train a facial component recognition system to recognize a facial component;

    a population module configured to populate a first knowledge base with facial components and, for each facial component, the facial component's body part classification, wherein the facial components in the first knowledge base include a first set of facial components extracted from facial identification training image data of a face of a first person at a first set of viewpoints; ~~and~~

    an indicator component module configured to:

        determine a first set of body part classifications associated with the first set of facial components:

        ~~and to determine, from the first set of body part classifications, a first body part classification that maximizes a probability that a person class of the facial components in the first set of facial components that are associated with the first body part classification is the first person.~~

        <ins>for each body part classification in the first set of body part classifications:</ins>

determine, from the first set of facial components, a subset of facial

components that are associated with the body part classification;

and

determine a probability that a person class of the subset of facial

components is the first person; and

determine a first body part classification in the first set of body part classifications

that maximizes the probability.


31. (Previously Presented) The system of claim 42, wherein the first body part classification and

the second body part classification are different.


32. (Currently Amended) The system of claim 30, wherein the indicator component module is

further configured to ~~determine the first body part classification~~ determine the probability using

Bayesian estimation.


33. (Currently Amended) The system of claim 30, wherein the indicator component module is

further configured to determine the probability that the person class of the subset of facial

components is the first person by:

    ~~determine~~ determining a first conditional probability, that a class is the first person, of ~~the~~

        ~~facial components extracted from the facial identification training image data of~~

        ~~the face of the first person at a first viewpoint~~ a facial component of the subset of

        facial components at a first viewpoint;

~~determine~~ <u>determining</u> a first posterior probability, that a class is the first person, by

multiplying the conditional probability at the first viewpoint by a prior

probability, that a class is the first person;

~~determine~~ <u>determining</u> a second conditional probability, that a class is the first person, of

~~facial components extracted from facial identification training image data of the~~

~~face of the first person at an additional viewpoint~~ <u>a facial component of the subset</u>

<u>of facial components at an additional viewpoint</u>; and

~~determine~~ <u>determining</u> a second posterior probability, that a class is the first person, by

multiplying the second conditional probability by the first posterior probability.


34. (Previously Presented) The system of claim 33, wherein the prior probability, that the class is

the first person, comprises one Nth where N is a number of person classes.


35. (Previously Presented) The system of claim 30, further comprising a storage module

configured to store, in a second knowledge base, the facial components in the first set of facial

components that are associated with the first body part classification.


36. (Previously Presented) The system of claim 35, further comprising:

a receiving module configured to receive facial components at various viewpoints of a

person to be identified; and

an identification module configured to identify the person using a facial component

stored in the second knowledge base.

37. (Previously Presented) The system of claim 42, wherein the first set of viewpoints and the second set of viewpoints are different.

38. (Previously Presented) The system of claim 30, wherein the training module is further configured to:

      receive facial component training image data of faces of persons at various viewpoints;

      extract facial components at various viewpoints from the facial component training image

          data of faces of persons at various viewpoints; and

      train a body part classifier module using the extracted facial components.

39. (Previously Presented) The system of claim 38, wherein the body part classifier module performs one-versus-all classification.

40. (Cancelled)

41. (Currently Amended) The method of claim 19, wherein the facial components in the first knowledge base further include a second set of facial components extracted from facial identification training image data of a face of a second person at a second set of viewpoints, and wherein the method further comprises:

      determining a second set of body part classifications associated with the second set of

          facial components; ~~and~~

      ~~determining, from the second set of body part classifications, a second body part~~

          ~~classification that maximizes a probability that a person class of the facial~~

                                                      

~~components in the second set of facial components that are associated with the~~

~~second body part classification is the second person.~~

for each body part classification in the second set of body part classifications:

      determining, from the second set of facial components, a subset of facial

            components that are associated with the body part classification; and

      determining a probability that a person class of the subset of facial components is

            the second person; and

determining a second body part classification in the second set of body part

      classifications that maximizes the probability.


42. (Currently Amended) The system of claim 30, wherein the facial components in the first

knowledge base further include a second set of facial components extracted from facial

identification training image data of a face of a second person at a second set of viewpoints, and

wherein the indicator component module is further configured to:

      determine a second set of body part classifications associated with the second set of facial

            components;

      ~~and to determine, from the second set of body part classifications, a second body part~~

            ~~classification that maximizes a probability that a person class of the facial~~

            ~~components in the second set of facial components that are associated with the~~

            ~~second body part classification is the second person.~~

      for each body part classification in the second set of body part classifications:

            determine, from the second set of facial components, a subset of facial

                  components that are associated with the body part classification; and

determine a probability that a person class of the subset of facial components is the second person; and

determine a second body part classification in the second set of body part classifications that maximizes the probability.